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NEPMU-7
Sigonella, IT

Inside this Issue:

From the OIC:

Advances in Chemical and Biological Warfare Defense

In my remarks for this column last year I talked about the potential for chemical or biological attacks hitting close to home through terrorist activities. Awareness and preparation can help us respond to, and possibly even deter chemical/biological warfare and terrorism.

I am pleased to report one such defensive effort, which was sponsored by the Navy Environmental Health Center and hosted by Navy Environmental and Preventive Medicine Unit 7 in Catania, Italy. In September 1999, NEPMU-7 hosted and chaired a high-level working group to develop a comprehensive Tri-service plan for biowarfare/bio-terrorism (BW/BT) defense in Europe. The group's main objective was to standardize the military medical response to BW/BT incidents in the U. S. European Command area of responsibility. Participants included senior medical representatives from EUCOM, the component services, OSD Health Affairs, Joint Staff, GEIS, USAMRIID, CBIRF, and others. Because incident response will often involve coordination with civilian agencies, we also solicited participation from noted civilian authorities. We had representation from the Centers for Disease Control, the Federal Emergency Management Agency, World Health Organization Europe, Harvard School of Public Health, and the Center for Risk Communication.

The working group addressed numerous important and timely BW/BT issues, including: outbreak investigation, global and theater disease surveillance, detection and laboratory analysis of BW agents, decontamination, medical logistics, patient triage and evacuation, risk communication, medical information technology, veterinary and food safety concerns, psychological consequence management, host nation support, and many others. We completed a draft EUCOM medical planning document (Annex Q), as well as a common-use document for wider dissemination.

The BW/BT Working Group

We anticipate further cooperation of all members in refining the draft documents. The ultimate goal will be to standardize this protocol throughout U.S. Forces in Europe. There is potential for subsequent

From the S.E.L.

I must begin my first "From the S.E.L" commentary by saying that it feels great being back in the Preventive Medicine Community after a two year hiatus. Indeed "There is no place like home." Seventeen years ago NEPMU-5 was my first duty station as a PMT, and I still have fond memories of the family atmosphere that existed there. I'm proud to say that same family atmosphere is here at NEPMU-7. Preventives Medicine professionals are the greatest group of people I've had the honor to work with.

Working with the PMT on board the USS AMERICA in 1982 is where I discovered my niche in life, and I have truly enjoyed being a PMT for seventeen years. However, one thing which does concern me, is the fact that nearly every year since I graduated from PMT School in 1983, there remain shortages of 8432s. Many solutions have been attempted to rectify this problem, such as larger Selective Reenlistment Bonuses and filling PMT School billets not taken by the fleet with Hospital Corpsman "A" School graduates.

I would like to request, appeal, beseech, implore, or just flat out beg each of you to take an active role in recruiting good, quality sailors for our NEC. Fellow PMTs, talk to your fellow shipmates when you have duty. Preventive Medicine Services at Hospitals don't wait until there's a job fair; do a display on your own. Preventive Medicine Technicians with the Marines, go out to the Battalion Aid Stations or set up displays at the local Exchanges. Areas where there are a large contingency of PMTs, (San Diego, Norfolk, Camp Pendleton and Camp Lejeune), get together and plan something big that will impress the masses. It may sound as if I'm reaching, but that's exactly what I'm requesting each PMT out there to do: reach out and let your fellow shipmates know about the versatility of our NEC. Acquaint your shipmates regarding the job you do every day and how much you enjoy it. Enlighten personnel to the different duty stations, assignments, and experiences that we encounter. Familiarize them with the amount of college credits they may be eligible for, upon completion of school. To make a long story short, let's market ourselves… no one's going to do it for us!

Now that you know where I am, don't be strangers. Stop by, e-mail or call, I'm here to serve. So please, help me to help you.

SEL, NEPMU-7

Advances in Chemical and Biological Warfare Defenses

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adoption by CENTCOM and possibly other Joint commands.

A transcript of the meeting will be available in CY 2000. This will be re-worked into a common-use document, which will serve as a guidebook for responding to BW incidents.

CDR Thomas Anderson
OIC, NEPMU 7

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NEPMU-7 Sharpens Skills In Biowarfare Disaster Drill

It's been a terrible couple of days in the Emergency Room. Dozens of persons have come in with symptoms of what appears to be some unknown infectious disease, and the number of patients still seems to be increasing by the hour. In spite of the best efforts of the doctors on duty, many appear to be dying. That's just the tip of the iceberg. All over the area other clinics and hospitals are experiencing the same thing. There seems to be no end in sight.

Does the drama portrayed above sound familiar? If it doesn't, it should. It is the picture of biological warfare or terrorism (BW/BT) at its most nightmarish. Fortunately, to date, this play has only been staged as a drill by facilities, and even entire cities, to prepare for what many experts consider to be inevitable – a major attack using a biological weapon capable, in the most horrific situation imaginable, of killing millions of people.

The broadening availability of biological weapons and the expertise to utilize them effectively has greatly increased the danger of a large-scale attack somewhere in the world in the near future. Many experts in the field of BW/BT defense are of the opinion that it is no longer a matter of "if" but rather "when" this will happen. For this reason, many groups, both military and civilian, are attempting to improve their ability to react quickly and efficiently to such an event. In the past year, all four Navy Environmental and Preventive Medicine Units (NEPMUs) have been incorporating state-of-the-art technologies to detect and identify high threat agents of BW/BT. Once these technologies are on board and tested, it is anticipated that the NEPMUs will become referral laboratories for specimens in the event of a known or suspected attack, within their respective Areas of Responsibility (AORs).

The newly-formed NEPMU-7 Biological Warfare Response Team got its first chance to test the procedures it is developing when it took part in a recent Force Protection drill at the Naval Air Station, Sigonella, Italy. The biowarfare scenario was drafted by NEPMU-7 personnel and approved by the Force Protection Committee, which organized the overall drill. The design of exercise was such that it would fit into the general background of the Force Protection Exercise. The picture was one of increasing tension between the United States and a mythical Middle Eastern country supporting terrorist activity against military bases in the region. Simply put, the scenario consisted of a jogger finding and reporting a suspicious device releasing an unknown substance into the air. The ensuing investigation would then involve coordination between a number of agencies on the base including (in addition to NEPMU-7) base Security, the Explosive Ordnance Department (EOD), the base Fire Department, the Disaster Preparedness Department, the Naval Hospital, and the Command and Control Center. In the event of a real attack, numerous other agencies, both on base and off, would also be involved. This could include local civilian organizations, as well as U. S. government agencies both inside and out of the military. It is clear to see that even this "simple" biowarfare scenario is by no means uncomplicated.

The drill itself began with the report to base Security by the jogger that an unknown device had been found within the base confines. Within 15-20 minutes Security had established a perimeter around the area. Since the item was reported as spewing some unknown substance into the air, the possibilities of both chemical and biological weapons were considered, and the EOD, Disaster Preparedness, and Fire Departments were notified. Initially, there was confusion between the various agencies as to who would be the on-scene commander, but this was quickly decided in favor of the Fire Chief. Due to the possibility of an unknown risk to the initial responders, a very conservative approach to the device was deemed appropriate. The task was given to the EOD to investigate the scene. EOD personnel first determined that the de-

A Preventive Medicine Technician gets suited up to enter the hot zone.

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NEPMU-7 Sharpens Skills in Biowarfare Disaster Drill

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vice was not releasing a chemical agent nor was it explosive. At that point the NEPMU-7 team was called upon to determine if a biological agent was involved. Once on scene, an NEPMU-7 investigator took diagnostic specimens and completed a (simulated) rapid field test, which indicated that the device may have released anthrax bacteria. Since the field assay is not specific for anthrax, however, the specimens were secured for transport to the NEPMU-7 laboratory for further testing and confirmation. Within two hours, a polymerase chain reaction assay confirmed the presence of *Bacillus anthracis* - the causative agent of anthrax.

One Preventive Medicine Tech. decontaminates another in the warm zone.

For NEPMU-7 the opportunity to participate in the Force Protection exercises couldn't have been timed better. The laboratory jumped at the chance to be able to test its operating procedures under field conditions. Previously these procedures had been developed as a purely mental vision of how such an event might logically be approached. In general, Team members were elated with how smoothly the response went during the operation. Still, until this chance came to test the procedures in this real-world simulation, no one could be certain how well they would work.

Regarding the overall base response, the most important, unexpected side-effect of this drill is that a number of departments, which can become important resources for BW/BT defense functions, were identified and coordinated in a team approach to such an event. Previously, there had been no attempt to achieve communication and teamwork between these groups. Indeed, the groups themselves had been primarily operating and planning independently of each other, often with little or no knowledge of the potential contributions to be made by the other organizations. This would likely have continued had it not been for the Force Protection Exercise, which managed to pull all of the groups together.

Since this was the first drill of its type at the Naval Air Station, Sigonella, it was expected that there would be problems. In fact, the drill went surprisingly well, and all agencies involved in the event coordinated very well as a team. The initial confusion seen was, in retrospect, judged to be minor, especially considering real world experience with a number of hoaxes in recent years. These events have shown clearly the high potential for a complete breakdown of coordination between agencies, which hadn't previously operated together. Still, as more experience is gained and technology improves, the chance of minimizing the potential for disastrous consequences of a BW/BT attack will improve. Drills such as this one allow us to improve and refine our procedures before real world events overtake us.

CBRE Team Leader
NEPMU-7

Agricultural Inspection of Exercise Crocodile '99

The Entomology Department of NEPMU-6 recently augmented to Combat Service Support Detachment-78 (CSSD-78), Marine Corps Base Hawaii-Kaneohe Bay, prior to and during Exercise Crocodile '99 in Queensland, Australia. The entomologists worked with CSSD-78 to assist with the United States Department of Agriculture's (USDA) required Agriculture Wash Down and Inspection of equipment returning from a foreign country. LT Brian Prendergast, LT David Hoel and HM3(SS) Carlos Echeverry spent three weeks at the CSSD-78 site in Gladstone, Australia. In accordance with USDA regulations, they inspected Marine Corps equipment returning from Australia. The equipment was headed for Hawaii, Okinawa, California, and Florida.

Agricultural wash downs and inspections are necessary to prevent the spread of foreign plants and animals into environments where they have not previously existed. Such introductions can be disastrous to the invaded ecological system. Alien species often thrive in new environments due to the lack of natural enemies,

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Agricultural Inspection of Exercise Crocodile '99

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more favorable environmental conditions, and native flora and fauna that lack defenses against alien predators or herbivores. A new species of plant or animal can multiply exponentially in a short period of time and have a severe impact on an environment.

In the 1930s, the crew of a Brazilian ship accidentally introduced the red imported fire ant into Mobile, Alabama. The species then spread west to Texas, north to Oklahoma and east to the Atlantic seaboard, from Florida to Virginia. Mature colonies range in size from 100,000 – 500,000 ants, and land that has been infested for a long time may have anywhere from 40 to 800 colonies of fire ant mounds per acre. In addition to their painful bite and sting, in highly infested areas these insects are responsible for the reduction in numbers of native wildlife.

Recently, a fly that is parasitic to this ant has been released with the hope of bringing this uncontrolled population under control. This year, red imported fire ants were discovered in California, raising the possibility of increased quarantine regulations for California-sourced produce and nursery stock. Hawaii's ecosystem is particularly sensitive to invasive species. Nearly seventy-five per cent of the known extinctions that have occurred in the United States have been to native Hawaiian plants and animals. Invasive species are largely responsible for this damage.

With respect to the introduction of foreign pests, Australia has suffered the same fate as the U. S. In the 1920s, an Australian homeowner released a pair of rabbits into the wild. By the late 1920s the cattle population was threatened as rabbits and cattle competed for diminishing grazing land. The prickly pear cactus has also threatened the Australian cattle industry. The cactus was planted in gardens for its beautiful blooms. However, it thrived in the Australian environment and replaced ranges grasses over thousands of acres. The cactus was finally brought under control when a moth native to Argentina that fed upon it was released. There are a plethora of other examples, but basically, weeds, seeds, plants, animals (including insects) and nematodes are of primary concern to the USDA.

The work of the NEPMU-6 team began in mid-August, before Exercise Crocodile '99 began. We assisted CSSD-78 with their wash down at MCBH Kaneohe Bay, HI, prior to loading the equipment for transport to Australia. Washing equipment prior to deployment to foreign countries has not been routine for U. S. Armed Forces. However, due to strict environmental regulations pertaining to the above mentioned problems, Australian Quarantine Inspection Service (AQIS) representatives came to MCBH-Kaneohe Bay to ensure that Marine Corps equipment headed for Australia was not contaminated. The inspectors looked over the equipment for stray plant material, holes in wood (indicating termites or wood-boring insects), dirt and mud (harbors for insect eggs, nematodes or seeds), and animals (primarily insects or other arthropods). The most difficult part of the inspection was checking camouflage netting. Each piece had to be removed from its package, spread out, and handpicked to remove any grass material. By the end of August the Marines had finished their AQIS inspection and were ready to send their gear to Australia for the exercise.

Combat Service Support Detachment-78 Marines (MCBH-Kaneohe, HI) and SeeBees of Amphibious Construction Battalion One (Port Hueneme, CA) at Crocodile 99, Gladstone, Australia wash soil from a dump truck to prevent the introduction of alien, invasive plants and animals when the truck returns to its homeport in Hawaii.

In mid-October, the Marines had finished their exercise and were ready to come home. Unfortunately, Australia has many plants and animals that could potentially threaten Hawaii, as well. Thus, the washing and inspection process had to be repeated. For this returning wash down and inspection, we had gear from Hawaii, San Diego, Okinawa, and two Maritime Prepositioning Force (MPF) ships. The MPF ships had unloaded all their rolling stock onto Australian soil as part of an MPF offload exercise. Once this gear touched Australian soil, it had to be cleaned and inspected before it could be packed for shipping back

An Entomologist inspects the tracks of a Marine Corps tank at the conclusion of Exercise Crocodile '99, Brisbane, Australia.

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Agricultural Inspection of Exercise Crocodile '99

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to its point of origin. The whole evolution took three weeks of nonstop work from sunrise to sunset and involved no less than eight inspectors working two shifts. Over 1,000 pieces of rolling stock were cleaned and inspected, including HMMWVs, 5-ton trucks, howitzers, Abrams tanks, amphibious assault vehicles, logistical vehicles systems (dragon wagons), generators, water bulls, and ROWPU units. Additionally, more than two hundred ISO containers and their contents were emptied and inspected. Mobile load containers and other such items were hand-cleaned. The wash down evolution provided thorough training for our NEPMU-6 entomologists, who have now seen and inspected almost everything the Marine Corps uses in the field. After such extensive experience, we are now pursuing USDA inspector certification.

Our crew worked with another team of inspectors from Okinawa, which included two Environmental Health Officers, another Entomologist, and one PMT. Additionally, one Chief PMT from the Navy Disease Vector Ecology and Control Center (NDVECC) in Bangor, Washington and one PMT organic to CSSD-78 contributed greatly to the effort. The work was long, tiring, and dirty, but at the same time rewarding. The mission to protect the Okinawan and American environments and to train inspectors was accomplished. NEPMU-6 now stands ready to help the operational forces in the Pacific with this difficult and demanding task.

Entomology Department
NEPMU-6

PACOM'S Humanitarian Assistance Ecology Project: Russia - Far East

At the direction of the Commander in Chief, U. S. Pacific Command (USPACOM) a joint-service Medical Humanitarian Assessment Team (M-HAT) completed a successful visit to Vladivostok, Russia from 28 August to 7 September 1999. The overall mission of M-HAT visits is to promote bilateral relations between USPACOM and Russia-Far East (RFE) under the policy of cooperative threat reduction. The purpose of this visit was to quantify lead exposure in kindergarten-age children and to support a health risk assessment for lead exposures in Vladivostok.

The mission was a result of a June planning visit, in which the DoD and Russian Province of Primorski Krai Department of Health officials agreed on the general scope of a project. For this mission, the team was to determine the exposure of children to lead in six of the region's one hundred-plus kindergartens. Air, water, soil, painted surface, dust, and blood samples were to be collected. During the eleven days the team spent in Vladivostok, a total of 1,342 samples were collected from the above sources, and 1,291 (96%) of them were either analyzed or screened on-site. Data from these tests were provided to the Russians before the M-HAT departed. The air samples and selected soil, paint, and dust samples were brought back to U. S. laboratories for testing by the participating agencies.

A Russian nurse prepares to obtain blood samples from Vladivostok kindergarteners, who were among the many tested for lead by the PACOM Medical Humanitarian Team.

In addition to the testing and analysis, another important portion of the mission was technology and information transfer. M-HAT members trained twenty doctors, nurses, and environmental scien-

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PACOM'S Humanitarian Assistance Ecology Project: Russia – Far East

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tists on the testing equipment and procedures. Five Russian doctors and several nurses were trained on the collection, handling, and analysis of blood using the team's LeadCare portable blood analyzer. (Only Russian health care providers obtained and handled the blood samples from kindergarten children). Three Russian environmental scientists were trained on the collection of general area air samples. By the end of the mission, they were collecting all the samples, completing the data sheets, and performing maintenance on the sampling equipment. Another four individuals were trained on the equipment used to collect personal breathing zone samples, and were subsequently responsible for all sample collection. Four Russian chemists were trained on the collection and analysis of water samples, and after the second day they were performing all of the analyses using the team's instruments. Three chemists were trained on the use of the Niton XRF for soil analysis and were analyzing samples after the second day. Finally, one person was trained on the use of the Niton XRF to scan surfaces for lead.

Two Russian chemists use NEPMU-6's Hach Water Chemistry Kit to test water samples for lead.

The effort was a success not only for the technical data generated and provided to our Russian hosts, but for the benefits the effort produced for the U.S. team members. No matter how hard one tries to simulate actual conditions, there is no substitute for the real thing. The U.S. military is now placing a lot of emphasis on conducting environmental health baseline assessments for contingency operations. This real-world exercise in Russia served as excellent hands-on training for such assessments. From the initial planning effort all the way to working under field conditions in a foreign environment, team members learned a lot and benefited immensely. The interservice environmental health and preventive medicine units that participated in this effort are based in the Pacific Theater, but had not yet had the opportunity to work and train together. This effort brought these units together, provided common goals and objectives, and offered an environment to jointly demonstrate and execute their capability. Not only did this mission assist our Russian hosts, it also enhanced PACOM's strategic cooperative engagement plan and Navy preventive medicine.

Environmental Health Officers
Wing (AFMC), Kadena AB, JA
NEPMU-6, Pearl Harbor, HI

JTF-SHINING HOPE:
Surviving the JTF Experience

Transferring under PCS orders typically occurs rather smoothly with ample time and planning and good expectation of the next assignment. Reporting under short notice to a Joint Task Force (JTF) contingency operation, however, typically means dealing with the unexpected. Regardless of the mission, the essential elements of a successful JTF experience include ***readiness***, ***staying informed***, and ***being flexible***. Such was my experience with Operation SHINING HOPE from 10 April to 30 June 1999.

Pre-Deployment Ready

Due to NEPMU-7's outstanding MMART program, being in a 'C-1' status permitted my rapid deployment to Einseidlerhof AFB (the "Warrior Preparation Center"), Germany, the command and control center for JTF SHINING HOPE. With "782" gear previously issued and packed, a dental class-1, and fully immunized, I had time

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JTF SHINING HOPE: Surviving the JTF Experience

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to collect and assemble adequate contingency materials and publications. I would learn to appreciate "readiness" as the JTF got underway.

Who's Who at JTF-SHINING HOPE

The HQ medical department staff had about twelve personnel, including a Senior Air Force Senior Medical Officer, a Senior Navy Medical Officer, Air Force Nurse, Army, Air Force, and Navy Medical Planners, Army Medical Logistics Officer, an enlisted admin-type, an Army Public Health officer, and a Navy Preventive Medicine Technician (me). Downrange at the "airhead" in Tirana, there were about 25 Air Force personnel from the 86th Medical Group in Ramstein, Germany with preventive medicine staff, including a Public Health Officer, a Public Health Technician, and a BioEnvironmental Engineer (BEE).

Defining the Mission – or, Why are we Here?

JTF SHINING HOPE's original plan was to establish an airhead at the civilian airstrip in Tirana, Albania. This was the safe-entry point for incoming humanitarian supplies. From April through June, literally tons of supplies were loaded and unloaded daily from Air Force planes to support both the refugees in Albania and the military personnel at Tirana. Our role at JTF HQ was to support the personnel downrange. We ensured that downrange medical personnel had adequate equipment, personnel and supplies to provide quality medical care for some 1,000 military personnel. It seemed that what we really did was support their camp "***quality of life,***" complete with hot showers, a 24 hour mess tent with hot meals, and a recreation tent to watch videotapes. Oh did I forget to mention a PX tent? JTF SHINING HOPE contrasted sharply with the other side of the runway with the U.S. Army–led Task Force HAWK, all hunkered down in flak jackets, helmets and all-you-can-eat MREs.

But who was I to talk? At HQ, we had top of the line computers – and of course, internet access. In 1999, the front line folks had secure and non-secure telephone, fax, and email. The only thing missing was VTC, though I'm willing to bet the Air Force had it on order.

This all sounds great; however, communication lines between Germany and Albania were tenuous, at best. April brought heavy rains, which meant mud everywhere – downrange and in Germany. E-mail, telephone and fax lines were continuously up and down. Communication problems meant HQ often didn't know "who was really who" and never mind "who was doing what" in Tirana. During one week, we discovered a Public Health Technician, a BEE Tech, and a Certified Pesticide Applicator at Tirana, all conducting mosquito surveillance and larvacide applications. The poor communication helped make Disease Non-Battle Injury (DNBI) reporting a literal three-ring circus: receiving weekly reports via secure email, fax, or secure phone—we never could standardize the reporting procedure. E-mail did allow HQ to receive priceless digital photos of refugee camp progress.

While whoever was doing preventive medicine downrange, I was busy at HQ, writing up the PM annex to the operations order. The JTF-SH also had a web page (secure, of course), where I maintained a "Force Health Protection" section that I updated continuously. The HQ staff worked 12-hour days ("half-days") for the first few weeks with usually one day off per week. When not trying to connect downrange, deciphering DNBI reports and forwarding them to EUCOM, or verifying downrange sanitation, I was coordinating water sample kits, water samples, and test results with the water laboratory in Landstuhl (CHPPM) , Germany and the downrange engineers.

After HQ Medical determined that the Preventive Medicine folks in Tirana were doing all the necessary things to provide a habitable living and working environment, HQ thought our next focus should be "leaning forward," toward sustainment. With various HQ personnel wanting to go downrange before the mission ended, we had to conduct medical screening to determine who at HQ was medically deployable IAW DoD standards. Making a longer story short, we were (I was) busy, determining deployment readiness for JTF personnel.

Mission Re-defined – Operation Staying Flexible

Just when the Tirana airhead was in full operation and the JTF began 'cutting' various non-essential personnel from downrange and at HQ, the mission was modified to include construction of three camps to provide shelter for up to 60,000 refugees. As the only Preventive Medicine representative on the HQ staff, I had a unique opportunity to display essential aspects of Preventive Medicine, and we were able to "lean forward." Attending refugee camp construction meetings at the HQ level, I stayed in close communication with the Tirana BEE who was conducting site surveys to assist Civil Engineers and JTF chain of command to determine feasible locations for the camps. Together, we as a team ensured all aspects of preventive medicine were included in camp infrastructure.

With the several JTF operations underway simultaneously, word was passed that theater-wide medical assets were to be used to support all operations. This gave

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Exposure of a Myth!

One of the most misunderstood insects that consistently result in paranoid phone calls is the Earwig. From the family Dermaptera, derived from the terms *Derma* meaning skin and *ptera* wings, these insects were once believed to enter your ear to do you evil, like eat into your brain. However, this is totally unfounded.

They do not bite but when disturbed they can discharge a liquid that smells like creosote. As an additional defensive measure, they may try to pinch the offender with their cerci, pincher shaped structures located at the rear of the insect. The cerci are used for defense and predation. The female cerci are straight sided while the male's are curved.

Earwigs are mostly nocturnal, hiding in cracks and crevices, under bark and leaves. They are long and narrow with flattened bodies, 3/8 inches to 1 3/8 inches long, and rarely with wings. They lay their eggs in burrows, in organic debris, or the ground and generally in clusters. These egg clusters are guarded, until they hatch, by the female, nurturing the nymphs until they are able to fend for themselves. They may have 1 to 2 generations a year and they over-winter as adults.

Female protecting an egg cluster. Notice cerci are opened in a threatening manner.

Though some are predacious, feeding on insects and snails, Earwigs mainly feed on dead and decaying plant material. For this reason, you will often find them in leaf litter, compost heaps or mulched flower beds. Considering that during the Dark Ages, people often slept on old hay and were infested with lice, its easy to understand why this insect may have been crawling in their hair or around their ears, thus the term "earwig." Understandably, the closer you have flowerbeds to your doors, the greater the chance you'll find them indoors. All around my house there are very healthy flowerbeds, rich in nutrients and covered with a thick layer of mulch. It is not uncommon at certain times of the year to find these insects inside, near the doors. Likewise, the drier or hotter it is outside, the greater the possibility they may come indoors to find moisture.

Although I am not bothered by earwigs, they can be a pest for plants and in some environments, may be found regularly in your home. Non-chemical, environmentally friendly control can be obtained by cleaning out the leaf litter or debris, and substituting alternative ground cover - like gravel - for mulch or low plants. Residual pesticides for gardens or lawns can also be used for control. But check the label to make sure they are listed as target insects. Apply pesticide in the early evening around infested areas so that it will be freshest when they emerge for the night.

Otherwise, enjoy them for what they are – another natural and interesting, yet safe, part of your environment. There are plenty of other pests that would be better suited for your attention and efforts.

Entomologist
NEPMU-2

JTF – SHINING HOPE: Surviving the JTF Experience

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me the green light to use all available assets outside the JTF medical chain, i.e., NEPMU-7, CHPPM-EUR, (Consolidated Health Promotion and Preventive Medicine, Europe) in Landstuhl, Germany, and any other DoD resource, reachable via the "worldwide web."

Mission Complete

Although not yet completed, CAMP HOPE received approximately 490 refugees on May 14, 1999. Making it to Tirana twice, I was able get a close-up look at the fruit of our efforts – CAMP HOPE. Additionally, I was able to assist the BEE with follow-on planning for camps 2 and 3, as well as assist the pest control technician. Back in Germany, and busy with day-to-day affairs, time flew by and the camp was completed and turned over on schedule in early June. When the bombing stopped, refugee camp construction also stopped. It was time for JTF SHINING HOPE to stand down. Just like a base closure due to BRAC, I had honors of turning out the lights for JTF-SH Medical.

Undoubtedly, serving as the sole preventive medicine representative on JTF SHINING HOPE HQ staff has been the highlight of my career. I may never have such an opportunity to say I worked with such a variety of people, in a mission that really contributed something positive for so many in a short period of time.

Epidemiology Department
NEPMU-7

Preventive Medicine
JTF - NOBLE ANVIL

If you want a unique experience, volunteer for the Preventive Medicine billet on a Joint Task Force. From April to July I worked as the sole Preventive Medicine representative on the Joint Task Force Noble Anvil (JTF-NA) staff. The JTF provided operational command and control of joint combat forces operating in support of Operation Allied Force and Operation Joint Guardian against enemy forces of the Federal Republic of Yugoslavia. JTF Noble Anvil executed U.S. phases of air and initial ground entry force operations.

The Surgeon's Office, established forty-five days after the air campaign began, consisted of six personnel from all three services: a medical doctor, three medical planners, one Environmental Health Officer, and one Logistics Officer.

A late start put us in continuous "catch-up" mode from the beginning. Office space, supplies, furniture, computers and secure phone-lines were absent at first and remained in short supply until the operation was almost over. Although access to the internet and classified email was available, rapid response to questions was hindered by lack of basic reference material. Further complicating matters, the office was relocated three times before coming to rest at NATO Armed Forces South (AF South) in Naples. In spite of these difficulties our merry band of six dug in and went to work.

As the Preventive Medicine representative, my responsibilities consisted of protecting the health and safety of over 41,000 personnel assigned to the JTF. This included 9,500 personnel in-theater (Kosovo, Macedonia and Albania) and all support personnel in eleven countries.

My duties were many and varied. In addition to the day to day task of dealing with medical, protocol, and reserve issues for the task force, I was given the following assignments:

- Implementing Disease Non-Battle Injury (DNBI) reporting
- Chemical, Biological, Radiation, and Environmental (CBRE) Medical Liaison Officer
- Medical Liaison Officer to
  - Armed Forces Medical Intelligence Center (AFMIC),
  - Marine Forces Atlantic
  - Defense Intelligence Agency
- European Command (EUCOM) Preventive Medicine Working Group
- Medical Watch Officer

As the CBRE medical liaison officer I researched the CBRE warfare capabilities of the Serbian military forces. Using the results of this research, a point paper was prepared for Admiral Ellis, the JTF Commander, describing the threat, appropriate medical responses and personnel protective equipment required to adequately protect the troops in theater.

We worked with EUCOM to implement the Disease Non-Battle Injury (DNBI) tracking. The DNBI data was analyzed and recommendations made concerning disease patterns for the health and safety of the troops. While comparing DNBI rates of two in-theater troop locations during Operation Allied Force, several interesting medical observations were discovered. Camp Able Sentry in Skopje, Macedonia, consisting of 500 U.S. personnel, has been in existence for several years and uses hardened structures for working and living spaces. In contrast, Tirana, Albania with 5,020 U.S. personnel was developed after the war began, and tents served as living and working.

In Camp Able Sentry, the number of personnel suffering from psychiatric illness was very low throughout the operation. In contrast, in Tirana the U.S. troops initially experienced a very high rate of reported psychiatric illness, which continued high during the conflict. When the air campaign concluded, this rate dropped considerably and continued at a low rate until the personnel redeployed to their home stations.

Sports and training injury rates also differed. Throughout the operation, Camp Able Sentry experienced a high rate of sports injuries and a low rate of training injuries. Conversely, Tirana camp experienced a high rate of training injuries and a very low rate of sports. Both camps experienced similar increases in respiratory illness cases as the dry season approached.

I deployed to Tirana, Albania, to visit the U.S. personnel attached to JTF Noble Anvil and get a first hand look at conditions in the field. One of the first things that caught my attention was the location of the camp, directly adjacent to the airstrip.

Rainstorms in early spring had turned the area into a muddy quagmire. In late spring and early summer the airfield dried up and became extremely dusty. This was especially problematic during helicopter operations as the tent camps were situated immediately adjacent to the runway. Dust blown by helicopter rotors permeated both living and working areas. Noise levels were also counterproductive to work and sleep cycles. A better positioning of the camp could have reduced or eliminated the problems.

As previously mentioned, tents were used for berthing and workspaces at the campsites. For field hygiene, two

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The Reorganization of NEPMU-2

In May 1999, The Navy Environmental Health Center (NEHC) published its strategic goals for 1999-2001. The strategic plan focused on three major areas: (1) Deployment Medical Surveillance (DMS), (2) Managing the Health of Our Populations, and (3) Promotion of Health (HP). As operational arms for NEHC, the Navy Environmental and Preventive Medicine Units (NEPMUs) were directly influenced by the goals that NEHC established to support DMS and HP. The following describes some of the initiatives that NEPMU-2 has implemented to support these newly defined goals.

A working group was chartered to reorganize the Unit's departments and personnel into an infrastructure better able to support the new capabilities and functions defined within DMS and HP. A second group was chartered to develop and implement a Preventive Medicine Partnership Program (PMPP) for the Atlantic Fleet that functions in a similar fashion to the program developed by NEPMU-5 in San Diego.

NEPMU-2 now operates under four directorates: Consolidated Industrial Hygiene Laboratory (CIHL), Fleet Health Promotion, Resources and Support, and Deployment Medical Surveillance. The CIHL's mission remains essentially unchanged. Civilian laboratory personnel will continue to provide consultation, training, and analytical services to Navy Industrial Hygiene and Occupational Health Departments. These analytical services include chemical analysis for organic and inorganic compounds in air and bulk materials and toxicological testing of biological samples to determine occupational exposures to chemical compounds such as lead.

Fleet Health Promotion has three major initiatives: (1) to provide on-site, train-the-trainer programs upon request; (2) to coordinate the development of a Health Promotion Consortium to manage a multi-level, military community health promotion program; and (3) to provide consultative assistance to the PMPP. The Directorate is headed by a civilian HP specialist (public health educator) and staffed by one PMT, and will grow as the demand for Health Promotion services increases throughout the Fleet.

The Resources and Support Directorate is comprised of personnel who manage matters related to Training, Fiscal and Travel, Supply, General Administration, and Automated Data Processing (ADP). This directorate is responsible for the internal operations of the Unit as well as the coordination of training that is provided to our external and internal customers. The Directorate is headed by a military Health Care Administrator and staffed by a general duty HM, financial specialist, Automated Data Processing specialist, and administrative support staff.

Deployment Medical Surveillance, the largest of the directorates, is comprised of DMS Operations, Bio Detection, Industrial Hygiene, Entomology, Threat Assessment, and Fleet Support Departments. DMS Operations is responsible for coordinating CBRE activities for the Unit including training, consultation, and detection. DMS Operations is also responsible for monitoring the development of the different DMS capabilities necessary to support the soon-to-be Forward Deployable Preventive Medicine Units in the Navy. Staffing consists of specialists in Radiation Health, Environmental Health, Industrial Hygiene, and Occupational Health.

The Bio Detection Department, previously Microbiology, is tasked with providing the capability for biological detection, ashore or afloat while in-garrison or deployed. The Microbiologist and Advanced Laboratory Technicians provide the technological and scientific support necessary for the detection of biological agents that cause infectious disease outbreaks as well as those used as bioweapons in terrorist or wartime attacks.

The Industrial Hygiene Department will continue to provide consultative and technical services to the Fleet in the assessment of workplace occupational exposures. In addition, the Industrial Hygienists will develop the Unit's capability for performing chemical and environmental surveillance in the field to support forces deployed for military or other-than-military operations. This department is staffed by three Navy Industrial Hygienists and a collateral-duty PMT.

The Entomology Department, staffed by two Entomologists and a collateral-duty PMT, will continue to provide vector surveillance and countermeasures in deployed and non-deployed settings.

The Threat Assessment Department, previously Epidemiology, continues to provide threat briefs, investigate disease outbreaks, monitor Reportable Diseases, and offer consultative assistance and training on Preventive Medicine issues. Threat Assessment is currently staffed by two Preventive Medicine physicians and a collateral-duty PMT.

The Fleet Support Department is responsible for the Preventive Medicine Partnership Program (PMPP). Similar to the program implemented by NEPMU5, the goal of

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Can I Ask You Something?

If you have ever listened to people conversing – in a working or a social situation– you may have noticed a lot of questions being asked. Questions get us the information we need to accomplish a task or make a point, so asking them is very natural. Another good time to ask questions is when we are teaching in front of a class. But this is not natural for most of us, so asking questions is often forgotten. That is unfortunate, because asking questions can be very useful to an instructor. If you haven't already, you will conduct some form of training during your career. This is especially true if you work in preventive medicine, where teaching is an important tool.

The primary purpose in asking questions of your students is to get them to focus on the topic being presented. When teaching a disease vector control class, a good question might be "Who (here) has heard about the appearance of the West Nile Encephalitis virus on the East Coast?" Such a question would bring all of your students onto the same train of thought. They know that you must have something important to say about it. From this point, you can delve into your presentation. This questioning as a focusing tool can be useful, as students often think about things other than your subject matter.

Questions during instruction have other purposes, as well. By paying attention to your students' responses, you can assess the knowledge level of your class. If few of your students had heard of the virus in the question above, you could explain what the virus is and why it is important to know about it. On the other hand, you may have a class that knows more about the virus than you do. For this group, little explanation would be needed, and you could quickly move on to your main topic. This way, you can present your lesson at the right level of understanding and at the right pace.

When asking questions, be sure to allow your students to respond. Students – especially adult learners – are motivated by their contributions to the class. When they respond to your questions, they reinforce your ideas. Also, by asking questions throughout your lesson, you can gauge the effectiveness of your instruction. If your students are not able to answer questions about a topic that you have just taught, it is time to evaluate, and probably adjust, your teaching technique.

With so many reasons to ask questions while teaching, it is important to know how to properly ask them. This point of relevant questioning may seem obvious, but remember, in the preventive medicine field, we often teach to non-medical personnel. As familiar as you may be with scientific and medical terms, your students may not be familiar with them. When asking questions, it is a good idea to give your students clear signals. Begin with an interrogative: who, what, when, where, why, or how. The questions gain the attention of the class and focus it on the subject at hand. And, because they are led by a "question word," everyone knows their response is expected.

In addition to the foregoing examples, here is a list of common question types, with a brief explanation and example of each:

Multiple Answer Question – many correct answers, allows for maximum class participation. Good for getting a class started, warming everyone up.

Example: What are the names of the Los Angeles class submarines?

Direct/Factual Question – one correct answer, works well for drill and aids in memorization.

Example: What are the Navy Core Values?

Yes/No Question – answer is usually obvious, serves to lead into a how/why follow-up question. Do not overuse this one, it can quickly become repetitive.

Example: An otherwise healthy looking Airman Apprentice reports to Sick Call and states that he has ringing in his ears. Do you take his vital signs and refer him to a doctor?

Follow-up questions: Why might the Airman have ringing in his ears? How might it have been prevented? How do hearing loss injuries affect the mission of the Navy?

Interest Arousing/Overhead/Rhetorical/Canvassing Question - is addressed to the whole class, focuses the minds of the students. serves as a polling question. Often answered by a show of hands.

Example: You have just been told that you are to pack up your field gear and transfer to Korea tomorrow. What will the weather be like?

Leading Question – the question suggests its own answer.

Example: If you were separated from your unit and lost in the forest in hostile territory, what is the first thing you should do?

In addition to knowing the different types of questions, you should know how to ask them. The Navy recommends the Five-Step Method. To begin, ask a question by starting with one of the interrogatives mentioned earlier. Do not use a student's name, and do not direct the question at any particular student. Doing so would put the student "under the spotlight." This "shotgunning" can be detrimen-

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Operational Preventive Medicine Course:
A Forum for Lessons Learned

Where do I find malaria chemoprophylaxis information for Eritrea? What are the current emerging infections of concern in the operational environment? What should I expect from a Joint or Multi-national operation? What does MOPP, MAGTF, FDPMU, FSSG, T/O, and AMAL mean? These are just a few of the questions that were answered during previous Operational Preventive Medicine Courses (OPMC) conducted annually at Navy Environmental and Preventive Medicine Unit No. 5 (NEPMU-5) in San Diego.

The objective of the OPMC is to identify mission-critical public health concerns in operational settings, with an emphasis on planning and practical management of preventive medicine operations from pre-deployment to post-deployment. The Course is a forum for lessons learned during field operations; from Vietnam to Desert Shield/ Storm to Restore Hope to Native Fury and Tandem Thrust, and, for 1999, CENTAM Relief. The course brings together instructors and students and provides them with opportunities to share personal operational experiences and to network with other public health professionals. The student learns through lectures, hands-on activities, and scenarios. The course relies on instructors and facilitators from around the country who are subject-matter experts in a variety of public health and medical topics, as well as having extensive deployment experiences. This format provides students with current knowledge on issues in operational preventive medicine, with practical aspects of field deployment. Included is a two-day field exercise that allows the student "hands-on" experience with preventive medicine equipment and procedures.

The Operational Preventive Medicine Course will be conducted at NEPMU-5 from 12-23, June 2000

Some of the topics to be covered during this year's course include epidemiology, international health care issues, field medical entomology, emerging infections, chemical/biological warfare, pre-deployment planning, after-action reports, venomous animals, briefing techniques, lessons learned, and Fleet Marine Force organization. The Naval School of Health Sciences, Bethesda has previously awarded eighty hours, Category 1 of the Physician's Recognition Award of the American Medical Association to students who successfully complete the course.

The course is primarily targeted to Physicians, and is open to Navy Active Duty and Reserve Medical Service Corps, Medical Corps, Nurse Corps, and Dental Corps officers, and PMTs and IDCs (E-7 and above). E-6s and E-5s with operational tasks will be considered on a case-by-case basis. Although there is no fee for the course, the student's command is responsible for arranging and funding travel and billeting.

To request a quota contact the NEPMU-5 Training Team Assistant at:
DSN: 526-1435 or commercial (619) 556-1435.

For Course Director: E-mail CAPT Ledbetter at:
ekledbetter@nepmu5.med.navy.mil.

For Course Coordinator: E-mail Mr. Tirado at:
altirado@nepmu5.med.navy.mil

The Reorganization of NEPMU-2

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the PMPP is to provide the LANTFLT PMTs and IDCs with additional support to ensure their preventive medicine/public health programs are in compliance with current directives. The partnership eliminates the “snap shot” approach of periodic inspections by establishing continuous, unintrusive support by the Unit’s PMTs that will help identify program deficiencies and needs. The PMTs, in consultation with the professional expertise from DMS and HP Directorates, will provide solutions for identified problems and ensure resolution through continuous follow-up. Fleet Support is staffed by two EHOs and the majority of the PMTs stationed at the Unit.

This reorganization to support DMS and HP will enable NEPMU2 to sail into the new millennium prepared to efficiently take on the challenges of supporting Navy Medicine’s goal of providing Force Health Protection.

Fleet Support Department
NEPMU-2

Preventive Medicine: JTF NOBLE ANVIL

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shower tents with limited hours of operation were available to accommodate the small number of female troops. Chemical toilets maintained by an Albanian contractor were used for human waste disposal.

During the initial stages of the operation, Meals Ready to Eat (MREs) were served for every meal and bottled water was the only approved source of potable water. Later, after a field mess had been established, tray rations (T-RATs) were served for meals in camp, with MREs issued only for camp-external operations. Additional testing confirmed that well water in the area was potable. This water was approved for use as drinking water only after it was chlorinated.

No evidence of pest infestation in the camp was noted during my visit and general sanitation appeared to be good. I spoke with MAJ Leon Robert, an Army Entomologist, who indicated that tick drags and buddy checks had turned up very few ticks. Ticks were of concern due to the prevalence of Lyme disease and tick-borne encephalitis in the region.

While in-country, Joint Task Force Shining Hope (JTF-SH) requested that I inspect potentially spoiled MREs at a remote Navy Seabee camp near Kukes, Albania. Since I was not attached to that JTF, I requested JTF-SH allow me to take their Air Force Public Health Technician (PHT) with me to Kukes. Air Force PHTs receive training similar to that received by Navy Preventive Medicine Technicians (PMTs).

A Navy helicopter flew us to the site where we inspected and sampled at random a quarter of the Seabee's 200 cases of MREs. We determined that several individual components of the meals had spoiled and were unfit for human consumption. We recommended that the MREs were eatable but some of the individual packets had spoiled and personnel were advised to check each meal before consumption. This inspection was essential as there was no approved medical treatment facility near the remote location, nor was an approved alternate food supply readily available. The cases of MREs had been allowed to pass their expiration date after extention by an Army Veterinary Technician. This visit underscored the importance of constantly checking materials prior to deployment.

As a member of the EUCOM Working Group, which consisted of representatives from each service, EUCOM, and both JTF-NA and JTF-SH, I reviewed many issues. Topics such as DNBI data collection and the aircraft noise hazard in Tirana were discussed, as was the possible use of chemical warfare in theater. The Pre- and post-deployment processes were also an important topic. JTF-NA components that did not submit pre-deployment forms were requested to complete the forms while in theater. Completion of these forms was a major problem for units with large numbers of personnel.

Assignment to the joint force was a lot of hard work, but also a professionally gratifying experience. If you are game for a serious challenge, volunteer to serve on a joint task force.

Environmental Health Officer
NEPMU-7

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Your articles are due, ***via your chain of command*** by **15 FEB 2000** to:

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Hail & Farewell

Welcome Aboard!

Fair Winds and Following Seas!

Can I Ask you Something?

(Continued from page 12)

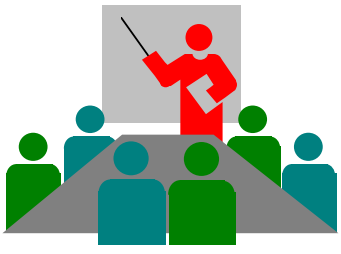
tal, especially if that student's response is incorrect. After asking your question, pause for about four seconds so your students can formulate a response. Maintain eye contact with them while they are thinking. The third step is to wait until some students raise their hands, then call on someone. (Sometimes, you will have to call on a non-hand raising student, to bring him or her into the discussion). Now, use the student's name and rank, and listen carefully to the response. Fourth, acknowledge your student's answer, with both verbal and with non-verbal cues. If the student's answer is incorrect, place your emphasis on the answer, not the student. Finally, the fifth step is to emphasize the answer as needed, and to make sure that everyone heard it. Here is an acronym that makes this five-step process easy to remember:

A - Ask the question
P - Pause to allow for thought
P - Pick a student to respond
L - Listen and acknowledge the response
E - Emphasize the response as necessary

If the student should happen to give a wrong answer, see if you can lead him or her to the correct one, "That's close, you are on the right track. Remember earlier when we talked about . . ." The student volunteered to answer your question. He or she deserves the benefit of the doubt, when dealing with new material and trying to contribute to the class. Often the student will have the correct answer in mind, but is unable toit properly. A little instructor patience here can provide articulate a lot of motivation.

This is just a review of questioning techniques. As instructors at an Environmental and Preventive Medicine Unit, a Disease Vector Ecology and Control Center, a medical clinic, a hospital, or out in the Fleet, these techniques are useful. Take the time to refine these techniques to compliment your own teaching style; make them work for you and your students. Use a variety of questions throughout your lesson, but don't overdo it. Use them like spices when cooking – just the right type and amount, at just the right time. Personalize your Lesson Plan by preparing questions in advance. Pencil them in under the Instructor Activity column, and use them when you teach. It takes a little practice, but in the end you will be glad you did.

Bart Landis
Master Training Specialist
Training Department
NEPMU-6



Operational Preventive Medicine Course

12 – 23 June 2000

COURSE GOAL

- Students able to identify mission-critical public health concerns in operational settings with emphasis on planning and practical management of preventive medicine operations from pre–post deployment.

COURSE DESCRIPTION

- Annual training, using lessons learned from Desert Shield/Storm, and preventive medicine information from participants in Navy/Marine Corps deployments.
- OPMC includes classroom and laboratory medical training, and performance-based field exercises.

TARGETED STUDENT POPULATION

Navy active duty and reserve medical personnel with preventive medicine responsibilities, including medical, medical service, nurse and dental corps, independent duty corpsmen, and preventive medicine technicians, E-7and above.

CONTINUING EDUCATION

Course has previously been designated for 80 hours, Category 1 of the Physician's Recognition Award of the American Medical Association.

PRESENTED BY

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See article on page 13 inside.

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